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FACTORS AFFECTING THE PRICE OF MARKET MILK
IN SAN FRANCISCO

A statement prepared for presentation at the
hearing on September 30 on the proposed
Stabilization and Marketing Plan for Fluid
Milk, San Francisco, California Marketing Area
1935

by

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Factors Affecting the Price of Market Milk in San Francisco

There is no simple, purely mechanical, means of determining the prices which can be paid for market milk at any particular time. Within certain broad limits these prices can be determined by giving consideration to several factors. The individual factors do not always have the same degree of importance so that it is necessary to consider these factors individually as well as collectively. The basic material on prices, furthermore, do not always reflect the same picture. It is thus important to give some consideration to what is included in or may modify the quoted prices.

In general it may be said that the following factors affect the prices paid to producers of market milk shipped to San Francisco:

1. Prices paid for manufacturing milk.
2. Cost of labor, feed, and transportation.
3. Demand for market milk.

Each of these three factors may be further subdivided.

1. Relation Between Market Milk and Manufacturing Milk Prices

Milk Shed.-- In 1930 the milk shed of San Francisco included Alameda, Contra Costa, Marin, Monterey, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties. About 47 per cent of San Francisco's total supply of milk came from Marin and Santa Clara counties (see table 12, Exhibit A). The milk shed has undergone some modification since 1930 but these counties still constitute the potential milk shed.

Included in the San Francisco milk shed are several counties which produce large quantities of manufactured dairy products. In fact less than one-third of all milk fat produced in the combined San Francisco and East Bay cities milk sheds in 1930 was used as market milk (see table 11, Exhibit A). The balance was utilized in miscellaneous manufactured dairy products. This constituted a vast potential supply of milk which can be diverted into market milk channels if economic conditions are favorable.

It is apparent that prices paid to producers of market milk shipped to San Francisco are basically related to prices paid to producers in the milk shed for milk fat utilized in manufactured dairy products -- referred to as manufacturing milk.

Manufacturing Milk Prices.-- The bulk of manufacturing milk produced in California is processed into butter -- other important manufactured dairy products are evaporated milk and cheese. All three of these products move in interstate and even in international trade. Prices of these products in the different markets of the United States are closely related and there is some relationship between domestic prices and prices in a world market like that of London.

Prices paid to producers of manufacturing milk in California are thus determined by national and even world conditions of demand and supply. They are generally regarded as being extremely sensitive to changes in either demand or supply conditions.

Manufacturing milk prices exhibit a distinct seasonal movement -- prices are high in the late fall and winter months when production is low and decline in the spring and early summer when production is at a high level. There is usually a wide seasonal fluctuation in production as manufacturing milk producers tend to allow their production to fluctuate with pasture and feed conditions. Manufacturing milk producers as a general rule purchase very little feed -- but rely chiefly upon pasture and, in some parts of the country, upon home-grown alfalfa and other hay. Prices paid for manufacturing milk are usually based on butter prices in the nearest wholesale market.

During the years 1925 to 1929 wholesale prices of 92-score butter in San Francisco fluctuated seasonally between 40 and 54 cents a pound, the annual prices during these years averaging about 45.5 cents. During the same period prices paid to producers of manufacturing milk in Stanislaus County fluctuated seasonally between 52 and 70 cents per pound milk fat, the annual prices averaging around 58 cents. The higher level of prices for milk fat than for butter is due to (1) the fact that butter contains only 80 per cent of milk fat, and (2) the fact that the price for milk fat included an allowance for skim milk.

Between 1929 and 1933 prices of butter and manufacturing milk declined annually, wholesale prices of 92-score butter in San Francisco averaging only 21.1 cents per pound in 1933. Prices of manufacturing milk averaged only 27.4 cents per pound of milk fat. Prices of butter and manufacturing milk have increased greatly from the low point of 16.6 cents in November 1933. The average wholesale price of butter (92-score) in San Francisco in 1934 was 25.1 cents per pound. The monthly prices in 1935 have averaged consistently above those for the corresponding months of 1934. Prices paid to producers for manufacturing milk have shown a similar increase. (Table 1 and fig. 1.)

Differential Between Market Milk and Manufacturing Milk Prices.-- Producers of market milk have to comply with sanitary regulations which entail some additional cost of production. They are also usually located further from their market than manufacturing milk producers and thus have to meet higher transportation costs. In addition they have to produce a more uniform supply of milk throughout the year, which entails heavier feeding expenses. Much of the feed has to be purchased.

There are two general methods of ascertaining these additional costs, (a) the cost of production method, and (b) the historical method.

(a) *Cost of production method*. This method involves making a study for all or a representative group of dairymen of the additional cost of producing market milk. This method, however, is open to several grave difficulties. In the first place accountants are divided in opinion as to just what items should be included as costs. In the second place, the additional costs of production will be found to vary considerably from farm to farm depending upon such factors as the size of the farm, the original investment in farm and equipment, the efficiency of the individual farm operator, and the distance of individual farms

from a market such as San Francisco. A considerable range in the additional costs will be found to exist and the problem then arises as to just what costs to use -- high, low, or average, or some other cost. In the third place, cost factors themselves fluctuate. Labor rates, cost of equipment, and feed costs change considerably from time to time and are used in different proportions from time to time. For example, high wages of milkers may induce a dairy farmer to install a milking machine which enables him to use less labor. Continuous cost studies would thus have to be made in order to keep such information up to date. This is a very costly undertaking.

(b) The historical method. This involves studying the difference between market milk and manufacturing milk prices over a period of time and observing closely the tendency for movement of producers from the production of the one to the other type of milk. This method has the merit of being simple and not greatly subject to bias. Data on prices paid for market milk and manufacturing milk are obtainable from various sources. Data on movement of producers can be obtained from health departments and from dealers.

This method, however, must be used with a great deal of caution. Prices quoted for market milk are usually the prices for that proportion of each producer's supply that is bottled and distributed as market milk. The proportion varies greatly from time to time. Prior to 1929 producers in San Francisco carried very little surplus so that the prices received for market milk represented very nearly the average price received by them for their milk. Since 1930, however, a considerable surplus has developed. This has to be sold as manufacturing milk at lower prices. As a result, the average prices received by producers may be, and probably are, several cents below the basic or quoted prices.

In most markets there was a distinct monopoly element in prices paid to producers of market milk prior to 1930. In other words, various devices were used to make it difficult for new producers to get into the market; health departments were unwilling to issue new permits, distributors had agreements with producers' associations or individual producers. Under monopoly conditions prices are maintained at higher levels than if prices were determined on a competitive basis. These monopoly conditions continued into 1930 and 1931 and even to 1932, in both the East Bay cities and San Francisco. They broke down as a result of a growing surplus, due to the entrance of new producers, some increase in production on the part of old producers and a decline in the volume of consumption. There was undoubtedly a monopoly element present in prices in both these markets prior to 1930, but just how much is impossible to say. The monopoly element was somewhat higher for San Francisco than for the East Bay cities. In San Francisco prices were maintained several cents higher per pound of milk fat up to 1931. (See fig. 4, Exhibit A.) Since June, 1932, prices to producers shipping milk to the two markets have, except for occasional disturbances, been on about the same level.

Because of a somewhat greater monopoly element in the San Francisco market milk prices prior to 1930, the trend of prices in the Oakland market (East Bay) gives a more representative picture of the competitive relationship between market milk and manufacturing milk prices. During the years 1925 to 1929 there was little movement of producers into or out of the East Bay milk market. The monopoly element was probably not very pronounced.

A third difficulty in an historical analysis of prices is the fact that prices of the cost factors, which compose the additional cost of producing market milk, themselves are subject to change. Feed costs are a more important element in producing market milk than for manufacturing milk. Transportation costs also are an important constituent of additional costs. Because market milk dairies are usually larger than dairies producing manufacturing milk, more hired labor has to be used. Changes in wages of hired labor thus need consideration.

Bearing these limitations of the historical method in mind, it is found that during the predepression period (1925 to 1929) the differential of market milk prices in San Francisco over those of manufacturing milk ranged from 28.6 cents per pound of milk fat in 1929 to 35.5 cents in 1926. The average for the five years was about 31 cents. (Table 1, figures 1 and 2.) However, the differential for the East Bay cities ranged several cents lower, from 16.1 cents in 1925 (when there was a milk war in these cities) to 26.3 cents in 1928. (Table 2, figures 1 and 2.) The average for the four years 1926 to 1929 was about 24.3 cents. It is probable that there was some monopoly element even in the prices paid for market milk going to the East Bay cities so that a differential of 22 or 23 cents may more accurately represent the competitive differential in additional costs. These figures can be regarded as reflecting the competitive position in San Francisco as well.

The differentials increased in both markets from 1930 to 1932, due to the fact that prices paid for market milk declined less rapidly than prices paid for manufacturing milk. Since 1933, however, the differential has declined in both markets. In 1934 the differential was 24.6 cents in Oakland and 21.6 cents in San Francisco. During the first six months of 1935 the differential in both markets averaged 21.7, which was below the average differential in Oakland during the predepression period, even allowing for some monopoly element.

2. Cost of Feed, Labor, and Transportation

Changes in Feed Costs.-- Feed costs constitute approximately 50 per cent of all costs of producing market milk. (Exhibit A, table 19.) Feed costs have fluctuated violently both seasonally and from year to year. A pound of market milk in San Francisco bought in excess of 82 pounds of feed during the years 1925, 1926, 1930, and 1932; between 70 and 80 pounds during the years 1928, 1931, and 1933. Buying power of market milk was below 70 pounds of feed during the years 1929 and 1934. During the first eight months of 1935 buying power averaged only 71.3 pounds. Prices of feed usually increase during the fall and winter months, and buying power in terms of feed will probably decline somewhat during the balance of the current year. It is improbable that the average buying power in terms of feed for the year 1935 will not exceed 73 pounds. (Table 3 and fig. 3.)

Buying power of market milk in terms of feed during 1935 will thus be somewhat unfavorable. This would justify a somewhat higher price for market milk than if the ratio of feed prices to market milk prices were more favorable.

Transportation Charges.-- Transportation charges on market milk to San Francisco were reduced approximately 20 per cent as from January 1, 1934 (table 5), whereas transportation charges for manufacturing milk have remained practically

TABLE 1

Prices of Market Milk at San Francisco, Manufacturing Milk at Country Point (Gustine and Los Banos) and Wholesale Prices of Butter at San Francisco (January, 1925 - August, 1935)

Year and month	Market milk price at San Francisco	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk: Monthly	Differential between market milk and manufacturing milk: Quarterly
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1925					
January	92.0	56.6	43.7	35.4	
February	92.0	56.0	42.3	36.0	
March	92.0	55.8	42.5	36.2	35.9
April	92.0	53.0	39.9	39.0	
May	92.0	53.2	39.9	38.8	
June	92.0	57.6	44.0	34.4	37.4
July	92.0	60.9	48.3	31.1	
August	92.0	64.0	50.0	28.0	
September	92.0	65.8	51.7	26.2	28.4
October	92.0	69.0	54.0	23.0	
November	92.0	69.8	54.3	22.4	
December	92.0	65.0	48.7	27.0	24.1
Average	92.0	60.6	46.6	31.4	
1926					
January	92.0	58.5	43.8	33.5	
February	92.0	57.9	45.8	34.1	
March	92.0	53.2	42.8	38.8	35.5
April	92.0	52.0	40.8	40.0	
May	92.0	52.1	40.1	39.9	
June	92.0	52.5	40.5	39.5	39.8
July	92.0	53.6	40.7	38.4	
August	92.0	57.4	43.6	34.6	
September	92.0	58.2	44.3	33.8	35.6
October	92.0	58.5	44.5	33.5	
November	92.0	60.6	45.2	31.4	
December	92.0	63.6	47.7	28.4	31.1
Average	92.0	56.5	43.2	35.5	
1927					
January	92.0	63.6	47.5	28.4	
February	92.0	63.8	47.7	28.2	
March	92.0	62.4	45.4	29.6	28.7
April	92.0	59.2	42.4	32.8	
May	92.0	58.2	41.7	33.8	
June	92.0	58.8	41.8	33.2	33.3
July	92.0	58.6	41.6	33.4	
August	92.0	60.7	44.1	31.3	
September	92.0	62.6	46.7	29.4	31.4
October	92.0	63.3	48.4	28.7	
November	92.0	63.4	48.9	28.6	
December	92.0	62.3	48.5	29.7	29.0
Average	92.0	61.4	45.3	30.6	

Table 1 continued on next page.

Table 1 continued.

Year and month	Market milk price at San Francisco	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk	
				Monthly	Quarterly
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1928					
January	92.0	60.0	46.4	25.8	
February	89.0	58.7	45.2	30.3	
March	89.0	57.0	43.4	32.0	29.4
April	89.0	53.4	39.9	35.6	
May	89.0	55.1	41.7	33.9	
June	89.0	56.4	43.0	33.6	34.4
July	89.0	58.9	45.6	30.1	
August	89.0	60.9	47.6	28.1	
September	89.0	64.2	50.3	24.8	27.7
October	89.0	64.8	50.9	24.2	
November	89.0	63.2	49.2	25.8	
December	89.0	64.0	49.7	25.0	25.0
Average	89.2	59.7	46.1	29.5	
1929					
January	89.0	59.8	45.9	29.2	
February	89.0	61.7	47.5	27.3	
March	89.0	59.0	44.6	30.0	28.8
April	89.0	57.4	43.1	31.6	
May	89.0	59.3	45.0	29.7	
June	89.0	59.3	44.8	29.7	30.3
July	89.0	60.0	45.0	29.0	
August	89.0	60.9	46.1	28.1	
September	89.0	63.6	48.7	25.4	27.5
October	89.0	63.3	48.3	25.7	
November	89.0	63.0	48.0	26.0	
December	89.0	57.0	41.7	32.0	27.9
Average	89.0	60.4	45.7	28.6	
1930					
January	89.0	51.4	36.5	37.6	
February	89.0	52.7	37.6	36.3	
March	89.0	50.5	37.7	38.5	37.5
April	89.0	51.8	38.8	37.2	
May	89.0	49.8	36.7	39.2	
June	89.0	47.0	34.0	42.0	39.8
July	89.0	47.0	33.9	42.0	
August	89.0	50.0	37.2	39.0	
September	89.0	52.0	39.0	37.0	39.0
October	89.0	49.6	37.1	39.4	
November	89.0	46.3	38.1	42.7	
December	89.0	44.7	33.1	44.3	43.1
Average	89.0	49.4	36.6	39.6	
1931					
January	89.0	37.3	26.2	51.7	
February	67.0	38.8	28.5	28.2	
March	67.0	38.4	28.2	28.6	36.2
April	67.0	32.3	24.3	34.7	
May	67.0	32.4	25.3	34.6	
June	67.0	30.5	25.0	36.5	35.3

Table 1 continued on next page.

Year and month	Market milk price at San Francisco	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk	
				Monthly	Quarterly
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1931					
July	67.0	31.0	26.2	36.0	
August	67.0	34.6	29.6	32.4	
September	67.0	35.9	30.5	31.1	33.2
October	60.0	37.8	31.9	22.2	
November	60.0	39.0	32.0	21.0	
December	60.0	36.3	29.7	23.7	22.3
Average	67.1	35.4	28.1	31.7	
1932					
January	63.0	30.9	24.4	32.1	
February	63.0	30.5	24.0	32.5	
March	63.0	29.4	22.9	33.6	32.7
April	63.0	25.5	20.0	37.5	
May	63.0	25.0	19.5	38.0	
June	63.0	23.4	17.9	39.6	38.4
July	63.0	24.4	18.9	38.6	
August	63.0	26.2	20.7	36.8	
September	63.0	26.5	21.0	36.7	37.4
October	63.0	27.4	21.9	35.6	
November	63.0	31.2	25.7	31.8	
December	63.0	32.4	26.9	30.6	32.7
Average	63.0	27.0	22.0	36.0	
1933					
January	63.0	25.6	20.1	37.4	
February	63.0	24.3	18.8	38.7	
March	53.0	24.8	19.3	29.2	35.1
April	51.0	26.1	20.6	24.9	
May	51.0	29.4	22.9	21.6	
June	51.0	29.5	23.0	21.5	22.3
July	51.0	31.5	24.0	19.5	
August	51.0	29.9	21.4	21.1	
September	51.0	30.1	20.6	20.9	20.5
October	55.0	30.7	22.2	24.5	
November	61.0	25.1	16.6	35.9	
December	61.0	31.1	21.1	29.9	30.1
Average	53.8	27.4	21.1	26.4	
1934					
January	58.0	25.3	18.8	32.7	
February	58.0	30.3	23.8	27.7	
March	58.0	29.9	23.4	28.1	29.5
April	50.0	27.7	21.2	22.3	
May	50.0	27.6	21.1	22.4	
June	50.0	31.0	22.5	19.0	21.2

Table 1 continued on next page.

Year and month	Market milk price at San Francisco	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk	
				Monthly	Quarterly
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1934					
July	50.0	31.6	23.1	18.4	
August	50.0	35.0	26.5	15.0	
September	50.0	36.2	27.7	13.8	15.7
October	62.0	37.5	29.0	25.5	
November	62.0	41.2	32.7	20.8	
December	62.0	41.4	30,9	20.6	22.3
Average	55.0	33.4	25.1	21.6	
1935					
January	62.0	43.0	32.5	19.0	
February	62.0	45.2	34.7	16.8	
March	62.0	40.8	30.3	21.2	19.0
April	62.0	39.0	28.5	23.0	
May	62.0	37.5	27.0	24.5	
June	62.0	36.2	26.7	25.8	24.4
July	62.0	35.4	25.9	26.8	
August	62.0	37.1	27.6	24.9	

Sources of data:

Market milk prices: U. S. Dept. Agr. Bur. Agr. Econ. Monthly market milk reports. January, 1925 to August, 1935.

Manufacturing milk prices: From the Golden State Company, Ltd.

Butter prices: Federal-State Market News Service for San Francisco.

Differential: Market milk prices less manufacturing milk prices.

FIGURE 1

Prices of Milk Fat - San Francisco, Oakland, and Country, and Wholesale Price of Butter - San Francisco (1925-1935)

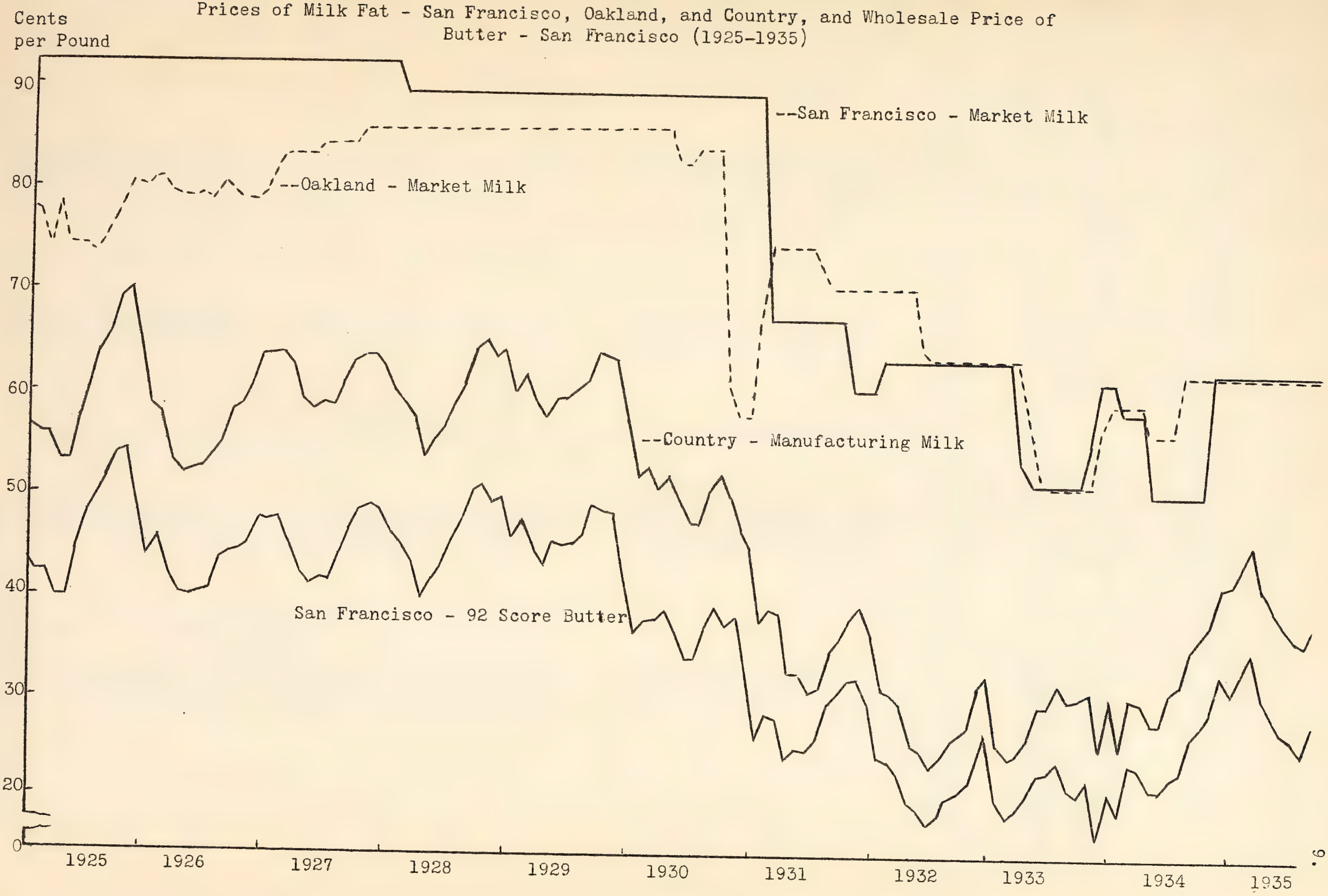


TABLE 2

Prices of Market Milk at Oakland, Manufacturing Milk at Country Point (Gustine and Los Banos) and Wholesale Prices of Butter at San Francisco (January 1925 - August 1935)

Year and month	Market milk price at Oakland	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk: Monthly	Differential between market milk and manufacturing milk: Quarterly
	1	2	3	4	5
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1925					
January	77.7	56.6	43.7	21.1	
February	77.6	56.0	42.3	20.6	
March	74.3	55.8	42.5	18.5	20.1
April	78.8	53.0	39.9	25.8	
May	74.2	53.2	39.9	21.0	
June	74.3	57.6	44.0	16.7	21.2
July	73.5	60.9	48.3	12.6	
August	74.8	64.0	50.0	10.8	
September	76.4	65.8	51.7	10.6	11.3
October	78.4	69.0	54.0	9.4	
November	80.4	69.8	54.3	10.6	
December	80.0	65.0	48.7	15.0	11.7
Average	76.6	60.6	46.6	16.1	
1926					
January	80.9	58.5	43.8	22.4	
February	81.0	57.9	45.8	23.1	
March	79.3	53.2	42.4	26.1	23.9
April	78.8	52.0	40.4	26.8	
May	79.0	52.1	40.1	26.9	
June	79.4	52.5	40.5	26.9	26.9
July	78.3	53.6	40.7	24.7	
August	80.4	57.4	43.6	23.0	
September	79.3	58.2	44.3	21.1	22.9
October	78.4	58.5	44.5	19.9	
November	78.4	60.6	45.2	17.8	
December	79.2	63.6	47.7	15.6	17.8
Average	79.4	56.5	43.2	22.9	
1927					
January	81.0	63.6	47.5	17.4	
February	83.0	63.8	47.7	19.2	
March	83.0	62.4	45.4	20.6	19.1
April	83.0	59.2	42.4	23.8	
May	83.0	58.2	41.2	24.8	
June	84.0	58.8	41.8	25.2	24.6
July	84.0	58.6	41.6	25.4	
August	84.0	60.7	44.1	23.3	
September	84.0	62.6	46.7	21.4	23.4
October	86.0	63.3	48.4	22.7	
November	86.0	63.4	48.9	22.6	

Table 2 continued on next page

Year and month	Market milk price at Oakland 1	Manufacturing milk at country point 2	92 score butter at San Francisco 3	Differential between market milk and manufacturing milk: Monthly 4	Differential between market milk and manufacturing milk: Quarterly 5
	cents per pound of milk fat	cents per pound of milk fat	cents per pound	cents per pound of milk fat	cents per pound of milk fat
1927					
December	86.0	62.3	48.5	23.7	23.0
Average	84.0	61.4	45.3	22.5	
1928					
January	86.0	60.0	46.4	26.0	
February	86.0	58.7	45.2	27.3	
March	86.0	57.0	43.4	29.0	27.4
April	86.0	53.4	39.9	32.6	
May	86.0	55.1	41.7	30.9	
June	86.0	56.4	43.0	29.6	31.0
July	86.0	58.9	45.6	27.1	
August	86.0	60.9	47.6	25.1	
September	86.0	64.2	50.3	21.8	24.7
October	86.0	64.8	50.9	21.2	
November	86.0	63.2	49.2	22.8	
December	86.0	64.0	49.7	22.0	22.0
Average	86.0	59.7	46.1	26.3	
1929					
January	86.0	59.8	45.9	26.2	
February	86.0	61.7	47.5	24.3	
March	86.0	59.0	44.6	27.0	25.8
April	86.0	57.4	43.1	28.6	
May	86.0	59.3	45.0	26.7	
June	86.0	59.3	44.8	26.7	27.3
July	86.0	60.0	45.0	26.0	
August	86.0	60.9	46.1	25.1	
September	86.0	63.6	48.7	22.4	24.5
October	86.0	63.3	48.3	22.7	
November	86.0	63.0	48.0	23.0	
December	86.0	57.0	41.7	29.0	24.9
Average	86.0	60.4	45.7	25.6	
1930					
January	86.0	51.4	36.5	34.6	
February	86.0	52.7	37.6	33.3	
March	86.0	50.5	37.7	36.5	34.8
April	86.0	51.8	38.8	34.2	
May	82.1	49.8	36.7	32.3	
June	82.1	47.0	34.0	35.1	33.9
July	84.1	47.0	33.9	37.1	
August	84.1	50.0	37.2	34.1	
September	84.1	52.0	39.0	32.1	34.3
October	60.5	49.6	37.1	10.9	
November	57.5	46.3	38.1	11.2	
December	57.5	44.7	33.1	12.8	11.6
Average	78.0	49.4	36.6	28.6	

Table 2 continued on next page.

Table 2 continued.

Year and month	Market milk price at Oakland 1	Manufacturing milk at country point 2	92 score butter at San Francisco 3	Differential between market milk and manufacturing milk: Monthly 4	Differential between market milk and manufacturing milk: Quarterly 5
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1931					
January	67.0	37.3	26.2	29.7	
February	74.0	38.8	28.5	35.2	
March	74.0	38.4	28.2	35.6	33.5
April	74.0	32.3	24.3	41.7	
May	74.0	32.4	25.3	41.6	
June	74.0	30.5	25.0	43.5	42.3
July	72.0	31.0	26.2	41.0	
August	70.0	34.6	29.6	35.4	
September	70.0	35.9	30.5	34.1	36.8
October	70.0	37.8	31.9	32.2	
November	70.0	39.0	32.0	31.0	
December	70.0	36.3	29.7	33.7	32.3
Average	71.6	35.4	28.1	37.0	
1932					
January	70.0	30.9	24.4	39.1	
February	70.0	30.5	24.0	39.5	
March	70.0	29.4	22.9	40.6	39.7
April	70.0	25.5	20.0	44.5	
May	64.0	25.0	19.5	39.0	
June	63.0	23.4	17.9	39.6	41.0
July	63.0	24.4	18.9	38.6	
August	63.0	26.2	20.7	36.8	
September	63.0	26.5	21.0	36.5	37.3
October	63.0	27.4	21.9	35.6	
November	63.0	31.2	25.7	31.8	
December	63.0	32.4	26.9	30.6	32.7
Average	65.4	27.0	22.0	38.4	
1933					
January	63.0	25.6	20.1	37.4	
February	63.0	24.3	18.8	38.7	
March	63.0	24.8	19.3	38.2	38.1
April	57.0	26.1	20.6	30.9	
May	51.0	29.4	22.9	21.6	
June	51.0	29.5	23.0	21.5	24.7
July	51.0	31.5	24.0	19.5	
August	51.0	29.9	21.4	21.1	
September	51.0	30.1	20.6	20.9	20.5
October	51.0	30.7	22.2	20.3	
November	56.6	25.1	16.6	31.5	
December	58.0	31.1	21.1	26.9	26.2
Average	55.5	27.4	21.1	28.1	

Table 2 continued on next page.

Year and month	Market milk price at Oakland	Manufacturing milk at country point	92 score butter at San Francisco	Differential between market milk and manufacturing milk	
				Monthly	Quarterly
	1	2	3	4	5
	cents per pound of milk fat		cents per pound	cents per pound of milk fat	
1934					
January	54.0	25.3	18.8	28.7	
February	51.0	30.3	23.8	20.7	
March	58.0	29.9	23.4	28.1	25.8
April	58.0	27.7	21.2	30.3	
May	58.0	27.6	21.1	30.4	
June	56.0	31.0	22.5	25.0	28.6
July	56.0	31.6	23.1	24.4	
August	56.0	35.0	26.5	21.0	
September	62.0	36.2	27.7	25.8	23.7
October	62.0	37.5	29.0	24.5	
November	62.0	41.2	32.7	20.8	
December	62.0	41.4	30.9	20.6	25.3
Average	58.0	33.4	25.1	24.6	
1935					
January	62.0	43.0	32.5	19.0	
February	62.0	45.2	34.7	16.8	
March	62.0	40.8	30.3	21.2	19.0
April	62.0	39.0	28.5	23.0	
May	62.0	37.5	27.0	24.5	
June	62.0	36.2	26.7	25.8	24.4
July	62.0	35.4	25.9	26.6	
August	62.0	37.1	27.6	24.9	

Sources of data:

Col. 1: U. S. Dept. Agr. Bur. Agr. Econ. Monthly market milk reports. January, 1925 to August, 1935.

Col. 2: From the Golden State Company, Ltd.

Col. 3: Federal-State Market News Service for San Francisco.

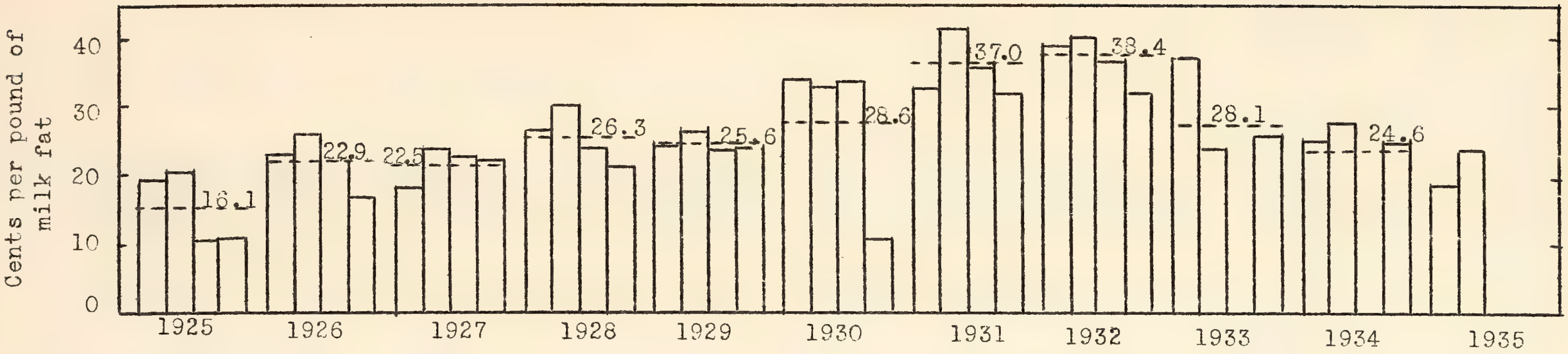
Cols. 4 and 5: Col. 1 minus col. 2.

FIGURE 2

Differential Between Market Milk and Manufacturing Milk Prices

1925-1935, by Three Monthly Periods

1. Oakland and Country Point



2. San Francisco and Country Point

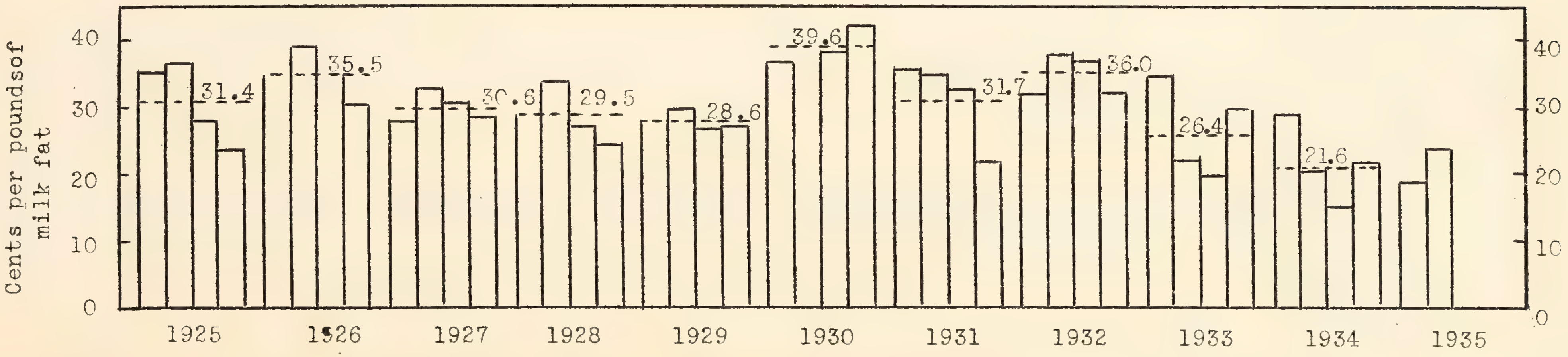


TABLE 3

Number of Pounds of Dairy Feed Purchasable with One Pound of Milk Fat
January, 1926-August, 1935

Year and month	Buying price of market milk at San Francisco	Wholesale price of dairy feed at San Francisco		No. lbs. feed purchasable with one lb. milk fat (on wholesale basis)
	1	2	3	4
	cents per pound of milk fat	dollars per ton	cents per pound	pounds
1926				
January	92	23.19	1.16	79.3
February	92	23.10	1.16	79.3
March	92	22.85	1.14	80.7
April	92	22.48	1.12	82.1
May	92	22.39	1.12	82.1
June	92	21.48	1.07	86.0
July	92	22.22	1.11	82.9
August	92	20.12	1.01	91.1
September	92	19.81	0.99	92.9
October	92	20.56	1.03	89.3
November	92	20.82	1.04	88.5
December	92	21.23	1.06	86.8
Average	92	21.69	1.08	85.2
1927				
January	92	21.18	1.06	86.8
February	92	21.20	1.06	86.8
March	92	21.15	1.06	86.8
April	92	20.42	1.02	90.2
May	92	20.79	1.04	88.5
June	92	20.33	1.02	90.2
July	92	21.69	1.08	85.2
August	92	21.51	1.08	85.2
September	92	22.72	1.14	80.7
October	92	23.08	1.15	80.0
November	92	24.28	1.21	76.0
December	92	24.98	1.25	73.6
Average	92	21.94	1.10	83.6
1928				
January	92	25.15	1.26	73.0
February	89	26.00	1.30	68.5
March	89	26.97	1.35	65.9
April	89	26.53	1.33	66.9
May	89	25.95	1.30	68.5
June	89	25.60	1.28	69.5
July	89	25.44	1.27	70.1
August	89	22.98	1.15	77.4
September	89	22.69	1.13	78.8
October	89	22.45	1.12	79.5
November	89	24.11	1.21	73.6
December	89	26.60	1.33	66.9
Average	89	25.04	1.25	71.2

Table 3 continued on next page.

Table 3 continued.

Year and month	Buying price of market milk at San Francisco	Wholesale price of dairy feed at San Francisco		No. lbs. feed purchasable with one lb. milk fat (on wholesale basis)
	1	2	3	4
	cents per pound of milk fat	dollars per ton	cents per pound	pounds
1929				
January	89	27.80	1.39	64.0
February	89	28.56	1.43	62.2
March	89	29.98	1.50	59.3
April	89	31.81	1.59	56.0
May	89	31.54	1.58	56.3
June	89	30.33	1.52	58.6
July	89	26.60	1.33	66.9
August	89	23.43	1.17	76.1
September	89	23.80	1.19	74.8
October	89	23.99	1.20	74.2
November	89	24.65	1.23	72.4
December	89	25.20	1.26	70.6
Average	89	27.31	1.37	65.0
1930				
January	89	25.31	1.27	70.1
February	89	25.09	1.25	71.2
March	89	24.45	1.22	73.0
April	89	23.47	1.17	76.1
May	89	22.47	1.12	79.5
June	89	19.94	1.00	89.0
July	89	17.92	0.90	98.9
August	89	18.92	0.95	93.7
September	89	18.89	0.94	94.7
October	89	18.21	0.91	97.8
November	89	18.17	0.91	97.8
December	89	20.06	1.00	89.0
Average	89	21.08	1.05	84.8
1931				
January	89	20.17	1.01	88.1
February	67	19.02	0.95	70.5
March	67	17.90	0.90	74.4
April	67	19.06	0.95	70.5
May	67	18.91	0.95	70.5
June	67	17.18	0.86	77.9
July	67	15.87	0.79	84.8
August	67	15.38	0.77	87.0
September	67	15.15	0.76	88.2
October	60	16.06	0.80	75.0
November	60	17.69	0.88	68.2
December	60	17.58	0.88	68.2
Average	67	17.50	0.88	76.1
1932				
January	63	17.71	0.89	70.8
February	63	19.14	0.96	65.6

Table 3 continued on next page.

Table 3 continued,

Year and month	Buying price of market milk at San Francisco	Wholesale price of dairy feed at San Francisco		No. lbs. feed purchasable with one lb. milk fat (on wholesale basis)
	1	2	3	4
	cents per pound of milk fat	dollars per ton	cents per pound	pounds
1932				
March	63	17.93	0.90	70.0
April	63	16.99	0.85	74.1
May	63	14.69	0.73	86.3
June	63	14.67	0.73	86.3
July	63	12.27	0.61	103.3
August	63	12.56	0.63	100.0
September	63	12.76	0.64	98.4
October	63	13.89	0.69	91.3
November	63	14.63	0.73	86.3
December	63	15.61	0.78	80.8
Average	63	15.24	0.76	82.9
1933				
January	63	15.11	0.76	82.9
February	63	14.05	0.70	90.0
March	53	13.74	0.69	76.8
April	51	13.25	0.66	77.3
May	51	13.59	0.68	75.0
June	51	13.60	0.68	75.0
July	51	14.29	0.71	71.8
August	51	14.78	0.74	68.9
September	51	13.85	0.69	73.9
October	55	14.17	0.71	77.5
November	61	15.50	0.78	78.2
December	61	16.41	0.82	74.4
Average	55	14.36	0.72	76.4
1934				
January	58	16.46	0.82	70.7
February	58	15.89	0.79	73.4
March	58	15.22	0.76	76.3
April	50	14.87	0.74	67.6
May	50	14.74	0.74	67.6
June	50	15.32	0.77	64.9
July	50	15.88	0.79	63.3
August	50	17.93	0.90	55.6
September	50	19.27	0.96	52.1
October	62	19.61	0.98	63.3
November	62	20.60	1.03	60.2
December	62	20.92	1.05	59.0
Average	55	17.23	0.86	64.0
1935				
January	62	20.27	1.01	61.4
February	62	19.62	0.98	63.3
March	62	18.49	0.92	67.4

Table 3 continued on next page.

Table 3 continued.

Year and month	Buying price of market milk at San Francisco	Wholesale price of dairy feed at San Francisco		No. lbs. feed purchasable with one lb. milk fat (on wholesale basis)
	1	2	3	4
	cents per pound of milk fat	dollars per ton	cents per pound	pounds
1935				
April	62	19.37	0.97	63.9
May	62	18.47	0.92	67.4
June	62	15.34	0.77	80.5
July	62	14.63	0.73	84.9
August	62	15.34	0.77	80.5

Sources of data:

Col. 1: U. S. Dept. Agr. Bur. Agr. Econ. Monthly fluid milk report for the United States. (Note: Prices in reports are for 100 pounds of milk containing 35 per cent milk fat. These have been converted in above table to a price per pound milk fat by dividing prices quoted by 3.5. When two or more prices are quoted, the highest price is shown.)

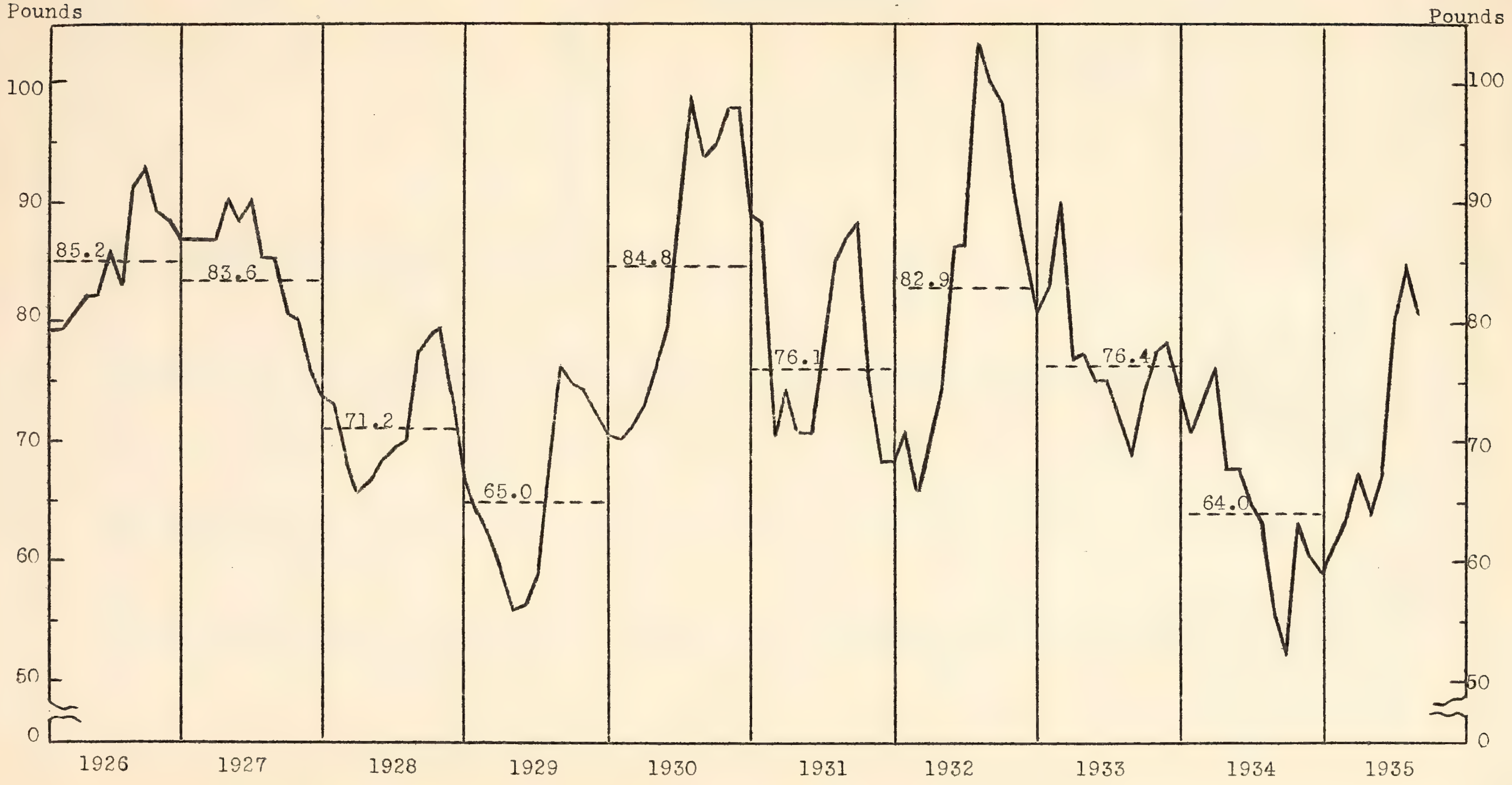
Cols. 2 and 3: From data on wholesale prices of feed in San Francisco compiled by the Agricultural Extension Division of the University of California. In computing the composite feed prices the following weights were used: Alfalfa, 45; cracked corn, 1; ground barley, 4; rolled oats, 1; cottonseed meal, 2; bran, 3; sugar-beet pulp, 2; linseed meal, 2.

Col. 4: Col. 1 divided by col. 3.

FIGURE 3

Pounds of Dairy Feed Purchasable with One Pound of Milk Fat in Market Milk

January, 1926-August, 1935



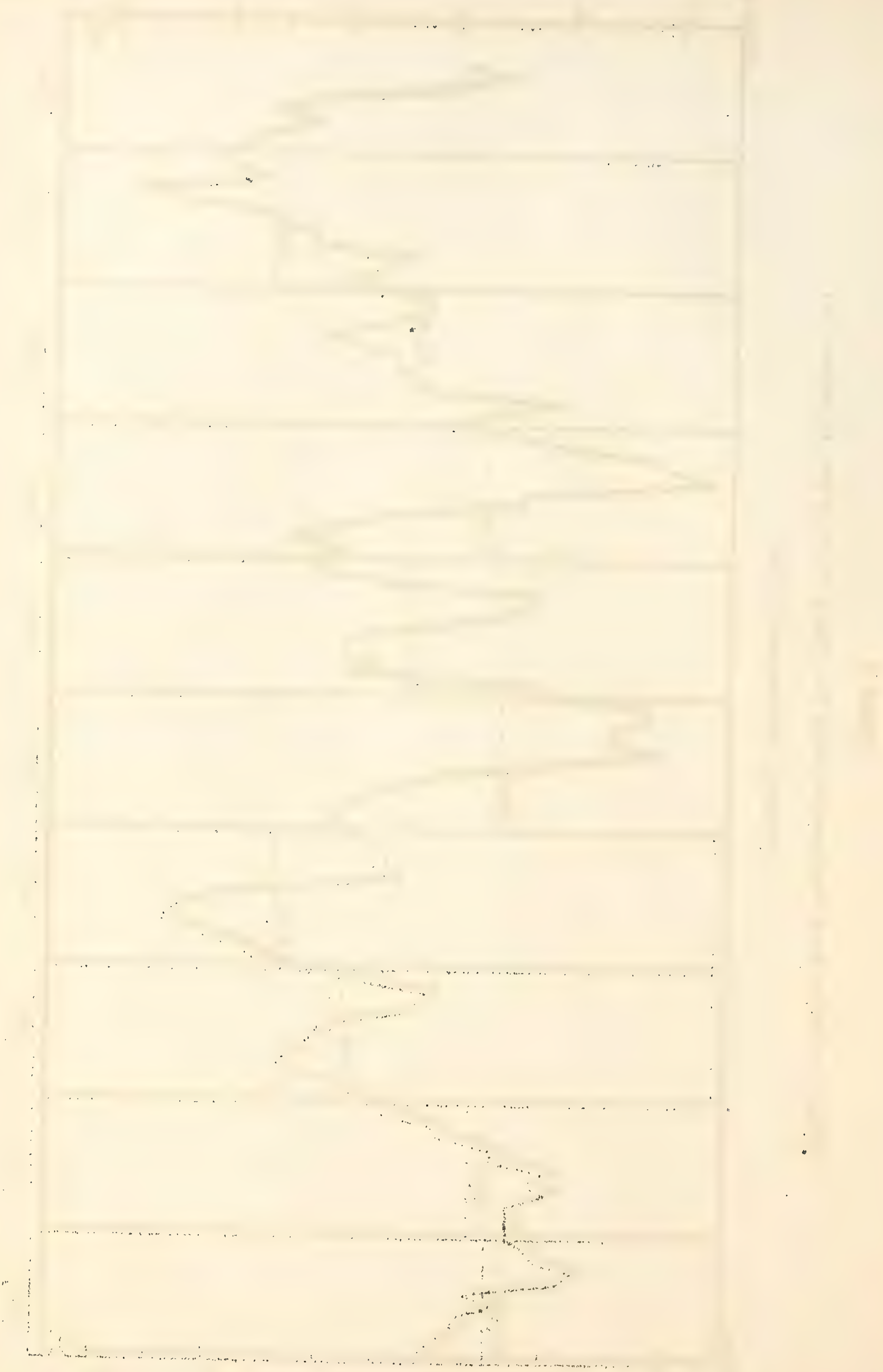


TABLE 5

Transportation Charges on Market Milk, San Francisco

Local county area	Transportation rates per can to East Bay metropolitan area before reduction	Rates to be tentatively in effect from Jan 1, 1934 under foregoing conditions
Salinas (Gilroy pick-up)	30¢	24¢
Gilroy	30	24
Coyote to San Jose	25	20
San Jose and north	22*	17½
Agnew	22*	17½
Palo Alto	20	16
Milpitas	20	16
Sunol	20	16
Irvington	18	14½
Newark	18	14½
Niles	18	14½
Decoto	18	14½
Centerville	18	14½
Alvarado	15	12
Mt. Eden	15	12
Hayward	15	12
San Lorenzo	15	12
San Leandro	15	12
Woodland	30	24
Dixon	30	24
Elmira	30	24
St. Helena (Oakville pick-up)	30	24
Oakville	30	24
Yountville	30	24
Napa	30	24
Sonoma	30	24
Vallejo	25	20
Pinole	18	14½
San Pablo	13	10½
Richmond	13	10½
Patterson	30	24
Modesto	30	24
Salada	30	24
Ripon	30	24
Manteca	30	24
Lathrop	30	24
Vernalis	25	20
Banta	25	20
Tracy	25	20

Table 5 continued on next page.

Table 5 continued.

Local country area	Transportation rates per can to East Bay metropolitan area before reduction	Rates to be tentatively in effect from Jan 1, 1934 under foregoing conditions
Pleasanton	20¢	16¢
Stockton (Roberts-Union Island area)	30	24
Holt	30	24
Oakley	25	20
Knightsen	25	20
Brentwood	25	20
Byron	25	20
Bethany	25	20
Walnut Creek	20	16

* A basic reduction of 3¢ per can was made effective for these points.

Source of data: From Golden State Company, Ltd.

stationary for the past decade. The transportation charges from the base point (Los Banos and Gustine) in 1929 was about 35 cents per 10-gallon can or about 11 cents per pound of milk fat (3.7 per cent test). A 20 per cent reduction in transportation rates would amount to about 2.2 cents per pound of milk fat, which for comparative purposes would reduce the predepression average differential for market milk shipped to Oakland to 22.1 cents (24.3 - 2.2) per pound of milk fat.

Labor Costs.-- Labor costs constitute about 20 per cent of all costs of producing market milk (Exhibit A, table 19). During the years 1927 to 1930 it took about 90 pounds of milk fat a month to pay the average monthly wage of a milker. By 1932 wages had declined more rapidly than prices of market milk so that only 63 pounds of milk fat were required. The average wage of milkers increased about $20 or 50 per cent from 1932 to 1933 (second half), whereas there was no increase in milk fat prices. If milkers' wages remain unchanged during the balance of the current year, approximately 97 pounds of milk fat will be required to pay the average wage of a milker, a ratio relatively less favorable than that prevailing during the years 1927 to 1930. (Table 4 and fig. 4.)

The unfavorable ratio of milk fat to wages would justify a somewhat higher differential than that prevailing during the predepression period.

Conclusion.-- The average annual differential between market milk and manufacturing milk prices (for Oakland) during the predepression period was 24.3 cents per pound of milk fat. Allowing for some element of monopoly in these prices a price of 23 cents would seem to more accurately reflect the competitive differential. The reduction of 20 per cent in transportation costs would indicate a justifiable reduction in the differential of about 2 cents per pound of milk fat or to 21 cents. However, the buying of market milk in terms of both feed and milkers' wages is unfavorable. This would justify a somewhat higher differential. Moreover, the 62 cents per pound of milk fat paid to producers during 1935 represents the base buying price. After deductions for market stabilization (loss on disposal of surplus) the prices actually received by producers (f.o.b. San Francisco) may be several cents less than the base price. This also would justify a somewhat higher differential. The historical method would indicate that a differential between market milk prices in San Francisco and manufacturing milking prices in the milk shed of around 23 to 24 cents (perhaps somewhat higher) would be warranted.

During the first eight months of 1935 the prices of manufacturing milk averaged about 39 cents per pound of milk fat. Adding 23 cents to this figure would indicate a price in San Francisco of 62 cents per pound of milk fat. This figure, however, would appear to be conservative.

It is necessary to again stress the fact that it is impossible to determine exactly what prices should be paid to producers for market milk at any particular time. At best, such prices can only be determined approximately, because the influence of many of the factors constituting the additional costs of production themselves can only be approximated. Established prices should thus be subject to change when conditions justify. Danger signals are a tendency for producers to change from market milk production to manufacturing milk, or vice versa. Such movements, together with a constant consideration of the trend in manufacturing milk prices and the buying power of market milk in terms of feed and labor, should serve as a guide to changes in prices to producers.

TABLE 4

Wages of Milkers and Pounds Milk Fat Required to Pay Wages*

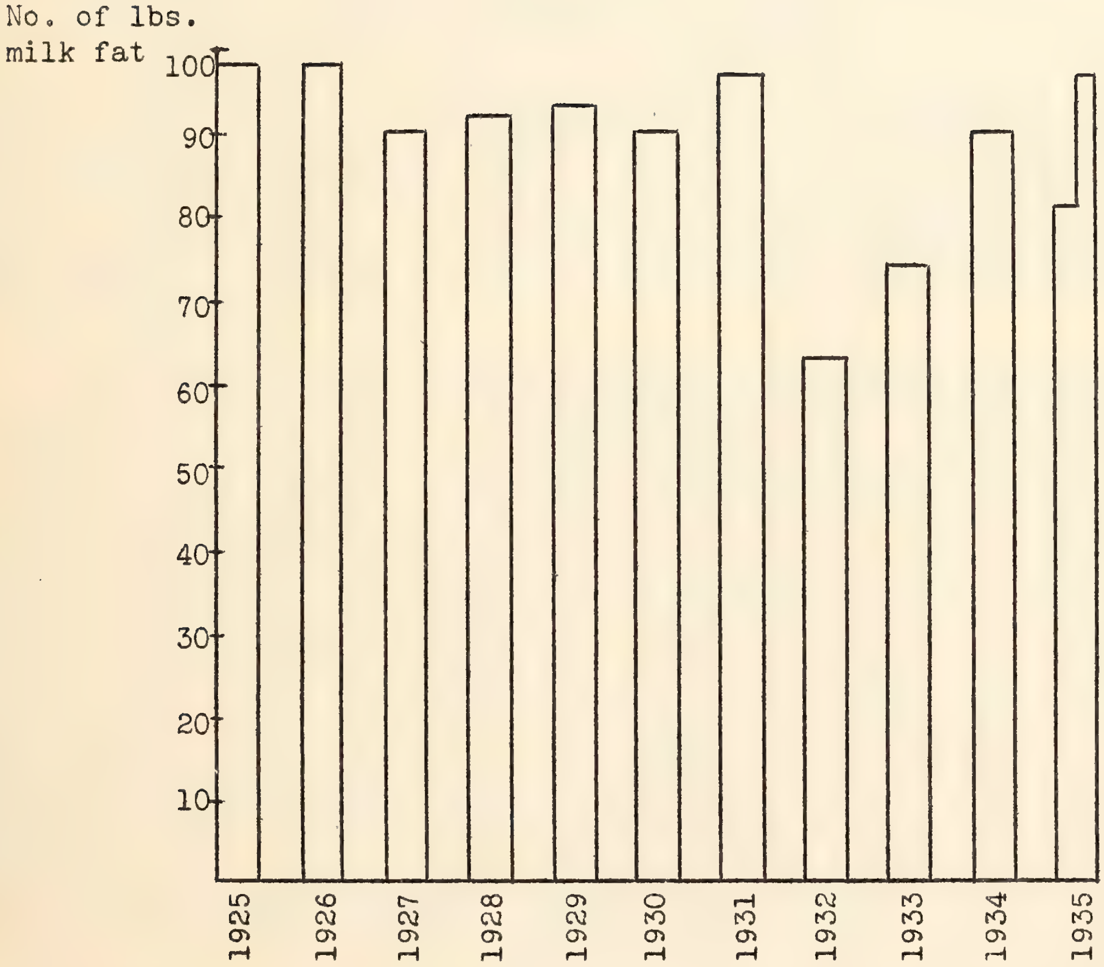
Year	Monthly wages of milkers			Price per pound of milk fat	No. of pounds of milk fat required to pay average wage
	Low dollars	High dollars	Average dollars	Cents per pound	
1925	80	100	90	92.0	98
1926	80	100	90	92.0	98
1927	75	95	82.50	92.0	90
1928	75	90	82.50	89.2	92
1929	75	90	82.50	89.0	93
1930	70	90	80.00	89.0	90
1931	50	80	65.00	67.1	97
1932	30	45	40.00	63.0	63
1933	30	45	40.00	53.8	74
1934	40	60	50.00	55.1	90
1935					
First half	45	60	50.00	62.0	81
Second half	50	65	60.00	62.0	97

* Plus board and accomodation.

Source of data: Supplied by Murray and Ready, employment agents, San Francisco.

FIGURE 4

Number of Pounds Milk Fat Required to Pay Monthly Milker's Wage



It would seem desirable that producers' prices be determined as often as every three months. If this is done any important changes in fundamental conditions influencing producers' prices can be given effect more rapidly than if prices are determined less frequently. This does not mean that prices would be changed every three months. A change in producers' price would not be necessary unless there had been a marked change in the basic factors affecting the situation.

3. Demand for Market Milk

Consideration up to this point has been given only to price factors influencing the supply of market milk. To complete the picture consideration must also be given to factors influencing the demand for market milk. Producers of market milk are not only interested in the price they obtain but also in the volume of milk they can dispose of. A high level of consumption is of extreme importance from the producers' viewpoint.

The peak of total consumption of milk in San Francisco was reached in 1927. Since that year consumption has tended to decline consistently, the decline being most marked since 1929. Meanwhile, however, population has increased. As a result, the decline in per-capita consumption has been greater than for total consumption. In 1927 per-capita consumption amounted to .600 pints daily. In 1935 it was only .479 pints or a decline from 1927 of 20.5 per cent. (Table 6.)

The decline in per-capita consumption since 1927 and especially since 1929 has been due largely to decreased buying power. The progressive decline in birth rates during the past decade has also been an important contributing factor, because children consume more milk than adults. The decline in per-capita consumption was probably also due to the fact that retail prices for market milk were slow to decline after the beginning of the depression and that the percentage decline, except for a short period, was not very great. Retail prices in San Francisco remained at 14.0 cents a quart (wagon delivery) until the end of 1930. They averaged 13.0 cents during the first seven months of 1931 and 10 cents during the last five months of that year. Since the beginning of 1932 retail prices (except for eight months during 1933 when they were 11 cents) have been maintained at 12 cents per quart. The retail price of 12 cents prevailing during the years 1934 and 1935 represents only a 14.3 per cent decline from the 1925 to 1929 levels. The prices paid to producers for market milk, on the other hand, were 32 to 38 per cent lower during the years 1934 and 1935 than during the predepression period. (Table 7.)

Retail prices are a combination of (1) the prices paid to producers, and (2) the margin per unit taken by distributors to cover unit operating costs including return on investment. During the years 1925 to 1927 the distributors' margin in San Francisco for wagon delivery amounted to 6.09 cents per quart. During the next three years it averaged 6.35 cents. During the first seven months of 1931 it averaged over 7 cents, but was only 4.84 cents during the last five months of that year. The margin for 1932 averaged 6.58 cents, for 1933 6.59 cents, and for part of 1934 about 7.70 cents. Since October, 1934, the distributors' margin on wagon delivery has been 6.67 cents, which is about .32 of a cent higher than in the years 1928 to 1929. In contrast, distribu-

TABLE 6

Per-Capita Consumption of Market Milk in San Francisco County

1925-1934

Year	Population	Milk consumption	
		Total	Pints per capita daily
	1	2	3
		thousands of gallons (i.e., 000 omitted)	
1925	570,536	15,392	0.591
1926	583,308	15,762	0.592
1927	596,080	16,325	0.600
1928	608,852	15,791	0.568
1929	621,623	16,077	0.567
1930	634,394	15,051	0.520
1931	645,411	15,712	0.534
1932	656,428	15,528	0.515
1933	667,445	14,864	0.488
1934	678,462	14,831	0.479

Sources of data:

Col. 1: 1930: U. S. Dept. Com. Bur. of the Census. Fifteenth census of the United States. 1930.
1925-1929: were interpolated from the 1920 and 1930 Censuses.
1931-1934: calculated, assuming the same absolute annual increase as between 1929 and 1930, less 20 per cent.

Col. 2: California State Dept. Agr. Bur. of Dairy Control. Statistical reports of California. Dairy products, annual issues. 1925-1934.

Col. 3: Col. 2 divided by col. 1.

TABLE 7

Buying Prices, Retail Prices, and Distributors' Margins on Quart Bottles of Pasteurized Milk Sold on Retail Routes in San Francisco

Year	Buying price per pound of milk fat	Buying price per quart of milk (4% milk fat)	Average retail price per quart	Distributors' margins per quart
	1	2	3	4
	cents			
1925	92.0	7.91	14.0	6.09
1926	92.0	7.91	14.0	6.09
1927	92.0	7.91	14.0	6.09
1928	89.0	7.65	14.0	6.35
1929	89.0	7.65	14.0	6.35
1930	89.0	7.65	14.0	6.35
1931				
January	89.0	7.65	13.5	5.85
February	67.0	5.76	13.0	7.24
March	67.0	5.76	13.0	7.24
April	67.0	5.76	13.0	7.24
May	67.0	5.76	13.0	7.24
June	67.0	5.76	13.0	7.24
July	67.0	5.76	13.0	7.24
August	67.0	5.76	10.0	4.24
September	67.0	5.76	10.0	4.24
October	60.0	5.16	10.0	4.84
November	60.0	5.16	10.0	4.84
December	60.0	5.16	10.0	4.84
Average	67.0	5.77	11.79	6.02
1932				
January	63.0	5.42	12.0	6.58
February	63.0	5.42	12.0	6.58
March	63.0	5.42	12.0	6.58
April	63.0	5.42	12.0	6.58
May	63.0	5.42	12.0	6.58
June	63.0	5.42	12.0	6.58
July	63.0	5.42	12.0	6.58
August	63.0	5.42	12.0	6.58
September	63.0	5.42	12.0	6.58
October	63.0	5.42	12.0	6.58
November	63.0	5.42	12.0	6.58
December	63.0	5.42	12.0	6.58
Average	63.0	5.42	12.0	6.58
1933				
January	63.0	5.42	12.0	6.58
February	63.0	5.42	12.0	6.58
March	53.0	4.56	11.1	6.54
April	51.0	4.39	11.0	6.61
May	51.0	4.39	11.0	6.61
June	51.0	4.39	11.0	6.61

Table 8 continued on next page.

Table 7 continued.

Year	Buying price per pound of milk fat	Buying price per quart of milk (4% milk fat)	Average retail price per quart	Distributors' margins per quart
	1	2	3	4
	cents			
1933				
July	51.0	4.39	11.0	6.61
August	51.0	4.39	11.0	6.61
September	51.0	4.39	11.0	6.61
October	55.0	4.73	11.0	6.27
November	61.0	5.25	12.0	6.75
December	61.0	5.25	12.0	6.75
Average	55.0	4.75	11.34	6.59
1934				
January	58.0	4.99	12.0	7.01
February	58.0	4.99	12.0	7.01
March	58.0	4.99	12.0	7.01
April	50.0	4.30	12.0	7.70
May	50.0	4.30	12.0	7.70
June	50.0	4.30	12.0	7.70
July	50.0	4.30	12.0	7.70
August	50.0	4.30	12.0	7.70
September	50.0	4.30	12.0	7.70
October	62.0	5.33	12.0	6.67
November	62.0	5.33	12.0	6.67
December	62.0	5.33	12.0	6.67
Average	55.0	4.73	12.0	7.27
1935				
January	62.0	5.33	12.0	6.67
February	62.0	5.33	12.0	6.67
March	62.0	5.33	12.0	6.67
April	62.0	5.33	12.0	6.67
May	62.0	5.33	12.0	6.67
June	62.0	5.33	12.0	6.67
July	62.0	5.33	12.0	6.67
August	62.0	5.33	12.0	6.67

Sources of data:

Col. 1: U. S. Dept. Agr. Bur. Agr. Econ. Monthly fluid milk reports for the United States. (Note: Prices in reports are for 100 pounds of milk containing 3.5 per cent milk fat. These have been converted in above table to a price per pound milk fat by dividing prices quoted by 3.5. Where two or more prices are quoted, the highest price is shown.)

Col. 2: Prices in col. 1 multiplied by 0.086, the amount of milk fat in pounds in a quart bottle of milk testing 4 per cent milk fat.

Col. 3: U. S. Dept. Agr. Bur. Agr. Econ. Market News Service. Fluid milk market report for the United States. (mimeo. reports) Washington, D. C.

Col. 4: Col. 3 minus col. 2.

tors' margins (wagon delivery) in the East Bay cities were reduced from 6.61 cents during the years 1928 and 1929 to 5.67 during the period from October, 1934 to date. (Table 7.)

The above statement does not infer that, because distributors' margins in San Francisco have been increased, distributors have been making increased profits. This may or may not have been the case. Processing and distributing costs are inversely related to the volume handled. Because the total volume of milk distributed in San Francisco has declined since 1927, several distributors are now handling less milk than they did in the earlier year. The decline in volume has been even more severe in the case of the wagon distributors. Store selling of milk has increased materially since 1929 and this has largely been at the expense of wagon distributors. Finally, the retail prices quoted as prevailing during several of the years since 1929 represented only the agreed price. Much milk was sold at cut-rate prices. To the extent that this custom was prevalent at any time, distributors' margins were lower than those shown.

Part of the increase in distributors' margins in San Francisco may be due to the peculiar relationship between prices paid to producers and retail prices (prices paid by consumers). Retail prices are usually changed a full cent at a time. If the full effect of this change is passed on to the producer it would result in a change of 11.5 cents per pound of milk fat in the producers' price. Such a large increase or decrease may not be warranted by economic conditions at a particular time. However, if the change in producers' price is less than 11.5 cents it would result in a decrease or increase in distributors' margins. For example, if the prevailing price to producers was 62 cents a pound of milk fat and an increase of 5 cents appeared justified, distributors would be forced either to operate on a reduced margin or increase retail prices one full cent. If retail prices were retained at their former level, the distributors' margin would be reduced nearly 1/2 cent a quart. On the other hand, if retail prices were raised one cent the margin would be increased by more than 1/2 cent.

It is important that this relationship between prices paid to producers and prices paid by consumers be kept in mind when determining prices to producers. This is desirable even if the state or federal authority is not concerned with determining and enforcing retail prices.

Producers of market milk have a direct interest in retail prices, for the level of these prices, to a considerable extent, determines the volume of milk that consumers as a whole will buy. As retail prices include the distributors' margin, producers are thus also directly concerned with the efficiency of the system of distribution and the level of distributors' margins. Stabilization of milk marketing from the producers' standpoint would seem to involve some consideration of stabilization and improvement of distribution methods, and especially of the peculiar relationship between retail prices and prices to producers.

It would seem that the following method of determining prices paid to producers and prices paid by distributors would accomplish the purpose of relating producers' prices to retail prices:

Prices paid by distributors for market milk would be changed 11.5 cents per pound of milk fat at a time. If economic conditions do not warrant a change of 11.5 cents in the price to producers, the balance between the 11.5 cents and

the justifiable increase (say 5 cents) would be paid into a stabilization or equalization fund. When a sufficient amount has been accumulated in this fund the price paid by distributors could be reduced 11.5 cents, with a one cent reduction in retail prices. The reduced price paid by distributors would be supplemented from the stabilization fund to meet the producers' price. Or let it be assumed that a further increase of 8 cents is warranted. This would make the combined increase equal to 13 cents (earlier increase of 5 cents plus further increase of 8 cents). The new price to producers would thus be 75 cents a pound of milk fat. The price (73½ cents) paid by distributors would be unchanged. The additional 1½ cents would be paid out of the stabilization fund.

Example A:

Prevailing price to producers . . . . . = 62 cents per pound of milk fat
Retail price . . . . = 12 cents per quart
Distributors' margin . . . . = 6.37 cents per quart
    Increase of 5 cents in producers' price becomes justified.
New price to producers . . . . = 67 cents per pound milk fat
New price paid by distributors . . . . = 73½ cents per pound milk fat
New retail price . . . . = 13 cents per quart

Stabilization fund gets 6½ cents per pound milk fat. Distributors' margin remains same as before.

After say six months sufficient funds have been accumulated in the stabilization fund to justify an 11.5 cent reduction in prices paid by distributors and one cent in retail prices.

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Price paid by distributors . . . . . . = 62 cents
Plus 5 cents from stabilization fund . = 5 cents

Producers' price . . . . 67 cents
Retail price . . . . 12 cents per quart

Distributors' margin unchanged and retail price reduced to 12 cents.

Example B:

Same as above except that after six months an increase in price to producers to 75 cents would become justified.

Price paid by distributors . . . . . . = 73½ cents
Plus 1½ cents from stabilization fund . = 1½ cents

New producers' price . . . . 75 cents

Retail price still 13 cents and distributors' margin remains unchanged.

This method takes into consideration the fact that frequent changes in retail prices are undesirable from a market standpoint. Distributors' margins remain unchanged. This is an important consideration, as every time producers' prices are changed under present methods a dispute rages over distributors' margins. This method would not preclude a reduction in distributors' margins as a result of more efficient methods of processing and distribution.